AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An apparatus for inserting side information in a communication system, comprising:

a channel encoder for encoding input data in a frame unit to generate encoded data symbols;

a puncturer for puncturing said encoded data symbols generated from said puncturer as a function of a number of symbols of the side information, the positions of the punctured encoded data symbols chosen to lessen a channel degradation by choosing positions that will have the least negative influence during the demodulation process of a receiver;

a side information generator for generating the number of said side information;

a selector for generating a select control signal designating positions into which said side information are inserted;

a side information inserter for inserting said side information between said encoded punctured data symbols in response to said select control signal; and

a spreader for spreading the output of said side information inserter.

2. (Cancelled)

3. (Previously Amended) The apparatus as claimed in claim 1, further including an interleaver for interleaving said encoded data symbols to supply the interleaved data symbols to said side information inserter.

4. (Cancelled)

5. (Cancelled)

6. (Original) The apparatus as claimed in claim 3, wherein said side information is

a power control bit.

7. (Original) The apparatus as claimed in claim 3, wherein said selector generate said select control signal for pseudo-randomly designating a position into which said side information is inserted.

8. (Original) The apparatus as claimed in claim 3, wherein said selector generates said select control signal for periodically designating a position into which said side information is inserted at preset intervals.

9. (Original) The apparatus as claimed in claim 7, wherein said selector generates the least significant bits of a given number of a long code of previous power control group as said select control signal.

10. (Currently Amended) A method for inserting side information in a communication system, comprising the steps of:

encoding input data in a frame unit to generate encoded data symbols;

puncturing said encoded data symbols, the positions of the punctured encoded data symbols chosen to lessen a channel degradation by choosing positions that will have the least negative influence during the demodulation process of a receiver;

inserting said side information between the punctured data symbols; and

spreading the symbols with said side information.

11. (Original) The method as claimed in claim 10, further including the steps of interleaving said punctured data symbols to generate the interleaved data symbols as the symbols between which said side information is inserted.

12. (Original) The method as claimed in claim 11, wherein the number of the punctured data symbols is determined in consideration of the number of symbols of said

side information.

13. (Original) The method as claimed in claim 12, wherein the number of the punctured data symbols is the same as the number of symbols of said side information.

14. (Original) The method as claimed in claim 13, wherein said side information is a power control bit.

15. (Original) The method as claimed in claim 11, wherein said side information is pseudo-randomly inserted between said interleaved data symbols.

16. (Original) The method as claimed in claim 11, wherein said side information is periodically inserted between said interleaved data symbols at preset intervals.

17. (Original) The method as claimed in claim 15, wherein the position of said side information inserted between said interleaved data symbols is designated by the least significant bits of a given number of a long code of previous power control group.

18. (Currently Amended) A channel transmitter of a communication system, comprising:

a cyclic redundancy check (CRC) generator for adding a CRC bit to input data in a frame unit;

a tail bit generator for adding a tail bit to the output of said CRC generator;

an encoder for encoding the output of said tail bit generator at a preset coding rate;

a puncturer for puncturing symbols of a prescribed number of the output symbols of said encoder, the positions of the punctured output symbols of said encoder chosen to lessen a channel degradation by choosing positions that will have the least negative influence during the demodulation process of a receiver;

an interleaver for interleaving the output of said puncturer;

a selector for generating a select control signal designating a position into which side information is inserted;

a side information inserter for inserting said side information between the output symbols of said interleaver in response to said select control signal; and

an orthogonal modulator for orthogonally modulating the output of said side information inserter.

19. (Original) The channel transmitter as claimed in claim 18, wherein said puncturer puncturers the output symbols of said encoder in consideration of the number of symbols of said side information.

20. (Original) The channel transmitter as claimed in claim 18, wherein said side information is a power control bit.

21. (Original) The channel transmitter as claimed in claim 18, wherein said selector pseudo-randomly designates the position into which said side information is inserted.

22. (Original) The channel transmitter as claimed in claim 18, wherein said selector periodically designates the position into which said side information is inserted at preset intervals.

23. (Original) The channel transmitter as claimed in claim 18, wherein said selector generates the least significant bits of a given number of a long code of previous power control group as said select control signal.

24. (Currently Amended) A transceiver of a mobile communication system, comprising:

a channel encoder for encoding input data to generate encoded data symbols

sequence;

a puncturer for puncturing a number of said encoded data symbol sequence in consideration of the number of symbols of side information to be inserted, the positions of the punctured encoded data symbols chosen to lessen a channel degradation by choosing positions that will have the least negative influence during the demodulation process of a receiver;

an interleaver for interleaving the punctured data symbol sequence;

a side information generator for generating said side information;

a selector for generating a select control signal designating a position into which said side information is inserted;

a side information inserter for inserting said side information between the interleaved data symbol sequence in response to said select control signal;

a transmitter for spreading the data symbol sequence having said side information to transmit the spread signal; and

a receiver for receiving said spread signal from said transmitter, wherein said receiver includes;

a finger for despreading said spread signal to generate a receiving signal sequence;

an inserting position selector for generating a control signal designating a position into which said side information is inserted; and

a demultiplexer for extracting said side information contained in said receiving signal sequence in response to said control signal generated from said inserting position selector.

25. (Original) The transceiver as claimed in claim 24, wherein the number of the punctured symbols is the same as the number of symbols of said side information.

26. (Original) The transceiver as claimed in claim 24, wherein said side information is a power control bit.

27. (Original) The transceiver as claimed in claim 24, wherein said selector generates said select control signal for pseudo-randomly designating the position into which said information is inserted.

28. (Original) The transceiver as claimed in claim 24, wherein said selector generates said select control for periodically designating the position into which said side information is inserted at preset intervals.

29. (Original) The transceiver as claimed in claim 27, wherein said selector generates the least significant bits of a given number of a long code of previous power control group as said select control signal.

30. (Currently Amended) A method for transmitting and receiving data in a mobile communication system, comprising the steps of:

encoding input data to generate encoded data symbol sequence;

puncturing a number of said encoded data symbol sequence in consideration of the number of symbols of side information to be inserted, the positions of the punctured encoded data symbols chosen to lessen a channel degradation by choosing positions that will have the least negative influence during the demodulation process of a receiver;

interleaving the punctured data symbol sequence;

generating said side information;

generating a select control signal designating a position into which said side information is inserted;

inserting said side information between the interleaved data symbol sequence in response to said select control signal;

spreading the data symbol sequence having said side information to transmit the spread signal;

despreading said spread signal to generate a receiving signal sequence;

despreading a position into which said side information is inserted; and

extracting said side information contained in said receiving signal sequence in response to the designated position.

31. (Original) The method as claimed in claim 30, wherein the number of the punctured symbols is the same as the number of symbols of said side information.

32. (Original) The method as claimed in claim 30, wherein said side information is a power control bit.

33. (Original) The method as claimed in claim 30, wherein said position into which said side information is inserted is pseudo-randomly designated by said select control signal.

34. (Original) The method as claimed in claim 30, wherein said position into which said side information is inserted is periodically designated at preset intervals by said select control signal.

35. (Original) The method as claimed in claim 33, wherein said position into which said side information is inserted is designated by using the least significant bits of a given number of a long code.

36. (Previously Presented) The apparatus as claimed in Claim 3, wherein upon receiving the select control signal, the side information inserter delays the interleaved data symbols by a delay interval and then inserts the side information into the frame within the delay interval.

37. (Previously Added) The apparatus as claimed in Claim 36, wherein the side information inserter inputs the delayed interleaved data symbols upon the completion of

receiving the select control signal.

38. (Previously Added) The method as claimed in Claim 11, wherein upon receiving a select control signal, the interleaved data symbols are delayed by a delay interval and then the side information is inserted into the frame within the delay interval.

39. (Previously Added) The method as claimed in Claim 38, wherein the delayed interleaved data symbols are inputted upon the completion of receiving the select control signal.

40. (Previously Added) The transmitter as claimed in Claim 18, wherein upon receiving the select control signal, the side information inserter delays the interleaved data symbols by a delay interval and then inserts the side information into the frame within the delay interval.

41. (Previously Added) The transmitter as claimed in Claim 40, wherein the side information inserter inputs the delayed interleaved data symbols upon the completion of receiving the select control signals.